

REMARKS

The specification has been reviewed, and clerical errors of the specification have been amended.

In the drawings, Fig. 2 has been amended to add a sheet 5' between a front board 5 and a main body 61, which is explained in paragraph 0043 of the specification.

On page 2 of the Action, claims 1, 5, 7 and 9 were rejected under 35 U.S.C. 102(e) as being anticipated by Szapucki et al. On page 4 of the Action, claims 6 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Szapucki et al. in view of Lilleland et al. On page 5 of the Action, claim 2 was rejected under 35 U.S.C. 103(a) as being unpatentable over Szapucki et al. in view of Baek.

In view of the rejections, claims 1-10 have been amended, and new claims 11-17 have been filed. Claims 11 and 14-17 are readable on the elected species.

As clearly recited in amended claim 1, a plasma-enhanced processing apparatus of the invention basically comprises a process chamber in which a substrate is processed, a pumping system communicating with the process chamber for exhausting gas in the process chamber, a gas-introduction system that introduces process gas into the process chamber, plasma-generation means that generates plasma in the process chamber by applying energy to the process gas, and a substrate holder that holds the substrate in the process chamber. An opposite electrode is disposed in the process chamber to face the substrate held by the substrate holder.

In the invention, the opposite electrode includes a main body, a front board disposed on the main body, and a clamping mechanism that clamps the front board onto the main body. The front board is pressed onto the main body to have a uniform thermal contact at a side opposite to a side where the plasma is generated.

In the invention, the main body is covered by the front board and is clamped by the clamping mechanism, i.e. not connected by

direct screw. Thus, no strong local force is applied to the main body. Also, the front board can contact the main body uniformly, so that the main body has a relatively uniform thermal distribution in operation.

Incidentally, the "uniform thermal contact" means that the front board and the main body may contact in some degree, and does not mean that the front board and the main body completely contact each other.

Szapucki et al. cited in the Action relates to a showerhead electrode for plasma processing, and includes a gas plate 3 with a flange, and split collar sections 1, 2 engaging the flange through a gasket 4. The collar sections 1, 2 are connected together by screws 17, 18 extending horizontally.

In the invention, the plasma-enhanced processing apparatus comprises the process chamber, the pumping system communicating with the process chamber, the gas-introduction system, the plasma-generation means, the substrate holder, and the opposite electrode. These members are basic mechanisms, but Szapucki et al. does not disclose or even suggest these basic mechanisms.

In the invention, the opposite electrode includes the main body, the front board disposed on the main body, and the clamping mechanism that clamps the front board onto the main body. In Szapucki et al., there is no member corresponding to the front board of the invention.

In the invention, the front board is pressed by the clamping mechanism onto the main body to have a uniform thermal contact at a side opposite to a side where the plasma is generated. In Szapucki et al., since the gas plate 3 has a thermal contact with the collar sections 1, 2 through the gasket 4, the thermal distribution on the gas plate 3 is not assisted by other member, different from the invention.

The features of the invention are not disclosed or suggested in Szapucki et al.

In Lilleland et al., an electrode assembly includes a support member 44, a silicon showerhead electrode 42, and an elastomeric joint 46 between the support member and the electrode. The above electrode assembly can be substituted for the assembly of electrode 10 and support ring 12 shown in Fig. 1.

Therefore, in Lilleland et al., the electrode 42 directly faces the plasma chamber, and there is no member corresponding to the front board disposed on the main board of the invention.

In the invention, the clamping mechanism clamps the front board onto the main body, but in Lilleland et al., there is no clamp mechanism corresponding to the invention.

In the Action, it was held that a plasma confinement ring 17 is flush with the front board of the upper electrode, but the ring 17 is superposed under a dielectric annular ring 18, which does not constitute the flush arrangement of the invention.

The features of the invention are not disclosed or suggested in Lilleland et al.

In Baek, a cooling mechanism is attached to an apparatus for forming a ferroelectric thin film, as stated in the Action. However, Baek does not show mechanisms for the front board and clamping mechanism of the invention. Therefore, the features of the invention are not disclosed or suggested in Baek.

As explained above, the cited references do not disclose or suggest the features of the invention. Even if the cited references are combined, the present invention is not obvious from the cited references.

Reconsideration and allowance are earnestly solicited.

A three month extension of time is hereby requested. A check in the amount of \$930.00 is attached herewith for the three month extension of time.

Respectfully Submitted,

KANESAKA AND TAKEUCHI

By Manabu Kanesaka
Manabu Kanesaka
Reg. No. 31,467
Agent for Applicants

1423 Powhatan Street
Alexandria, VA 22314
(703) 519-9785